

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Before the Board of Patent Appeals and Interferences

In re Patent Application of

Atty Dkt. SCS-540-563

C# M#

Confirmation No. 3929

TC/A.U.: 1791

Examiner: J. Goff II

Date: January 12, 2009

WEST et al.

Serial No. 10/535,493

Filed: May 18, 2005

Title: ASSEMBLY OF SEALED COMPONENTS



Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

☐ **Correspondence Address Indication Form Attached.**

☐ **NOTICE OF APPEAL**

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences

from the last decision of the Examiner twice/finally rejecting \$540.00 (1401)/\$270.00 (2401) \$
applicant's claim(s).

☐ An appeal **BRIEF** is attached in the pending appeal of the \$540.00 (1402)/\$270.00 (2402) \$
above-identified application

☐ Credit for fees paid in prior appeal without decision on merits -\$()

☒ A reply brief is attached. (no fee)

☐ Petition is hereby made to extend the current due date so as to cover the filing date of this
paper and attachment(s)
One Month Extension \$130.00 (1251)/\$65.00 (2251)
Two Month Extensions \$490.00 (1252)/\$245.00 (2252)
Three Month Extensions \$1110.00 (1253)/\$555.00 (2253)
Four Month Extensions \$1730.00 (1254)/\$865.00 (2254) \$

☐ "Small entity" statement attached.

Less month extension previously paid on -\$()

TOTAL FEE ENCLOSED \$ 0.00

☐ **CREDIT CARD PAYMENT FORM ATTACHED.**

Any future submission requiring an extension of time is hereby stated to include a petition for such time extension.
The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or
asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this
firm) to our **Account No. 14-1140**.

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NIXON & VANDERHYE P.C.

By Atty: Stanley C. Spooner, Reg. No. 27,393

Signature: 

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REPLY BRIEF

This Reply Brief is responsive to the Examiner's Answer mailed November 12, 2008.

Interview Summary October 24, 2008

The record of the present case includes a Notice of Non-Compliant Appeal Brief mailed by the Patent Office on October 20, 2008, in which the Primary Examiner contended that the Appeal Brief "does not present an argument under a separate heading for each ground of rejection on appeal" and also that "appellants need to have a heading in the Arguments section DIRECTLY under which appellants address the merits of that rejection, i.e. the arguments cannot precede the heading(s)."

Appellants contacted the Supervisory Primary Examiner Crispino and left a message for him on October 23, 2008. On October 24 2008, Primary Examiner Goff returned the call and was requested to provide any PTO rule support for his contentions in the Notice of Non-Compliant Appeal Brief. Appellants explained that in the present case, where there were numerous issues common to many of the different grounds of rejection, it was appropriate that those issues be clearly examined and discussed in the Appeal Brief. This was done in Sections A-D. The arguments of Section A were included in the discussion of the anticipation and obviousness rejections in Sections B and C. The errors in the Examiner's conclusion were discussed in Section D. Finally, Sections E-M specifically addressed each one of the grounds of rejection set out in the Final Rejection incorporating the previous discussions in Sections A-D.

Accordingly, Examiner Goff agreed that the Brief met the minimum requirements of the rule for Appeal Briefs and indicated that he would both withdraw the Notice of Non-Compliant Appeal Brief and would forward an Interview Summary to that effect.

While Appellants have received no Interview Summary confirming the PTO agreement to withdraw the erroneous Notice of Non-Compliant Appeal Brief (and making of record the substance of the telephone interview), Appellants presume that the Examiner's Answer mailed on November 12, 2008 is in effect a withdrawal of the Notice of Non-Compliant Appeal Brief.

The Examiner's Answer

Turning to the merits of the Examiner's Answer, it appears that the discussion between pages 3 and 12 are identical to the rejection set out in the Final Rejection. Inasmuch as Appellants' previously filed Appeal Brief responds to each one of these bases for rejection, Appellants need not respond further. Accordingly, this Reply Brief will be directed to the new points of argument set out in the Examiner's Answer between pages 13 and 18 and will be responded to in detail below.

1. On page 13, the Examiner states that "as interpreted by the examiner" the claim terms "cure" and "cured" require only "cross-linking of at least some of the polymer chains"

Appellants have submitted the sworn Declaration of Dr. Steven Harris under the provisions of Rule 132. It is noted that the Examiner has not disputed that Dr. Harris has sufficient educational and professional experience to provide expert testimony in this case. Since the contention that Dr. Harris is an expert is not traversed, it will be taken as admitted by the PTO.

In paragraph 6 of the Declaration, Dr. Harris testifies that a layer of polysulphide sealant is "cured" when it has reached a particular Shore A hardness, when it is "tack free" and when it will have "good levels of environmental resistance." The Examiner has offered no dispute to this testimony nor provides any evidence in support of any other conclusion, but instead offers his own interpretation of the word. Because the Examiner has provided no evidence to support his definition of the word that "cure" or "cured" can

mean cross-linking of only “some of the polymer chains” the Examiner’s unsupported opinion has no weight and does not controvert the testimony of Dr. Harris.

Because the Examiner does not dispute Dr. Harris’ qualifications, his testimony is clearly expert testimony. Expert opinion testimony is factual evidence of record in this application. Because the Examiner does not provide any evidence disputing Dr. Harris’ testimony, the issue is whether the Examiner’s “interpretation” takes precedent over the sworn testimony of an undisputed expert in the field.

Additionally, the Examiner has offered no evidence to suggest that it is appropriate to ignore the definition of “cured” contained in Appellants’ specification, i.e., on page 6, lines 18-20, the polysulphide sealant was placed in temperature and humidity controlled conditions for “14 days to fully cure.” This is the “cured” sealant that was subsequently used in the exemplary assembly. Thus, the invention requires pre-assembly curing of the polysulphide sealant.

There is no disclosure in Appellants’ specification of any “partial curing” (the Examiner’s discussion of page 8, lines 12-13 is erroneous, as it will be clearly seen that this portion of the present specification relates to **bonding** time, **not curing** time). Thus the only curing discussed in Appellants’ specification is with respect to fully “cured” sealant.

Because the Examiner fails to provide any dispute of Dr. Harris’ credentials or any factual evidence disputing Dr. Harris’ testimony, the Examiner’s “interpretation” simply does not hold sway against the evidence of the meaning of “cured” in Appellants’

specification, especially as considered by those having ordinary skill in the art, as clearly stated by Dr. Harris' Declaration.

Therefore, the Examiner's first and major error is that he misunderstands the claim term "allowing the sealant to cure." It is believed that this central misunderstanding of the Examiner permeates each and every one of the rejections made for the reasons previously discussed in the Appeal Brief and therefore mandates reversal of each of these rejections.

2. The Examiner misunderstands Appellants' specification which teaches periods of time for "bonding" previously cured polysulphide layers

In the paragraph bridging pages 13 and 14 of the Examiner's Answer, the Examiner refers to page 6, lines 18-20 of the specification which discusses allowing polysulphide sealant to cure for a period of 14 days. The specification then discusses the use of this "fully cured" polysulphide sealant in a subsequent assembly, and this is one example of pre-assembly curing of the sealant, as discussed and covered by Appellants' independent claims.

The Examiner alleges that Appellants' specification discloses different periods for curing, i.e., "periods of 1 day, 3 days, 7 days, 14 days and 48 days have been tried" citing page 8, lines 12-13. The Examiner misunderstands what is clearly disclosed in Appellants' specification. The preceding lines 4-11 all relate to the **bonding** of polysulphide films. As disclosed in Appellants' specification, the "cured polysulphide films do bond to other polysulphide films when subjected to moderate compressive

loads” (page 8, lines 5-6) and “bonding is achieved within a realistic interval” (page 8, line 11). Thus, the immediate seven lines discuss four aspects of the **bonding** of already cured polysulphide sealant films. Lines 12 and 13 expand upon the “realistic interval” during which bonding is achieved by specifying that bonding “periods of 1 day, 3 days, 7 days, 14 days and 48 days have been tried.” The cited portion of Appellants’ specification has nothing to do with the curing period of polysulphide sealant.

Thus, the disclosure in Appellants’ specification are periods of time during which previously cured polysulphide films are bonded together under “moderate compressive loads” and this bonding is achieved within a “realistic interval,” i.e., the specified periods of time that have been indicated as successful in lines 12-13.

Accordingly, the Examiner’s failure to read all of what is disclosed in Appellants’ specification has apparently led to his assumption that the disclosed bonding periods of “1 day, 3 days, 7 days, 14 days and 48 days” are somehow, partial curing times for the sealant. It is submitted that the correct interpretation is clearly disclosed in Appellants’ specification and is also clearly specified in Dr. Harris’ expert testimony. In paragraph 17, Dr. Harris specifies that “[t]hose of ordinary skill in the art in the polysulphide sealant field will be well aware that polysulphide sealants typically cure in around 14 days and this is disclosed in the originally filed specification at page 6, lines 18-20.” The Examiner also fails to consider and/or dispute this assessment of the teaching in Appellants’ specification as to what curing means, especially in the polysulphide sealant field.

Quite clearly, the disclosure on page 8, lines 12-13 of various bonding periods of time from 1 day to 48 days cannot possibly relate to the period for curing polysulphide sealant as suggested by the Examiner, because the expert testimony specifies that such sealants typically cure “in around 14 days” and notes that this is disclosed in Appellants’ specification as filed.

The Examiner has simply misunderstood the teaching in Appellants’ specification and has confused periods of time for **bonding** under “moderate compressive loads” and the period of time for **curing** which is “around 14 days.” This error in understanding on the Examiner’s part is included in each of the rejections of the claims and therefore there is no support for any of the Examiner’s rejections as detailed in Appellants’ Appeal Brief.

3. The Examiner offers no evidentiary rebuttal of paragraph 6 in Dr. Harris’ Declaration

In the middle of page 14 of the Examiner’s Answer, the Examiner attempts to rebut paragraph 6 of Dr. Harris’ Declaration by saying that Dr. Harris’ “argument is not persuasive.” First, the Examiner must appreciate that as a matter of law, expert testimony is not “argument” as in the case of an attorney or examiner argument. In fact, Dr. Harris’ testimony is evidence which is of record in this application. The Examiner is obligated to provide some evidentiary rebuttal to this testimony if he believes there is any such basis for rebuttal. The test is not whether the attorney argument (based on the testimonial evidence) is persuasive or not – the test is whether there is any evidence supporting the Examiner’s view.

It is noted that paragraph 6 of the Declaration provides further testimony as to what “cured” means with respect to polysulphide sealant, i.e., that it has a specified Shore A hardness, it is “tack free,” it does not adhere to other materials under light pressure and “will have good levels of environmental resistance.” The Examiner’s disregarding of this expert testimony is simply reversible error, as it is well known that expert declarations provide testamentary evidence which returns any burden of argument to the examiner to provide substantive evidence of record for his position. There is no such evidence of record in this case because no such evidence exists.

As to the further substance in the Examiner’s argument, he suggest that the definition of “cured” is not set out in Appellants’ specification. While Appellants dispute that, as noted above, paragraph 6 of Dr. Harris’ Declaration clearly states that those of ordinary skill in the art will understand what “cured” means and there is no further definition needed in Appellants’ specification.

The Examiner also suggests that the Declaration does not show that the John reference does not have a “cured” layer of polysulphide sealant. The Examiner simply ignores the specific teaching of the Declaration. For example, in paragraph 18, Dr. Harris testifies that based upon the disclosures in John, “it would be clear to those of ordinary skill in the art that John’s polysulphide sealant is not ‘cured’ either as described in Applicants’ specification and claims or as known to those of ordinary skill in the art.” This statement in paragraph 18 clearly provides testamentary evidence that the “cured” layer of polysulphide sealant in John is in fact not cured.

Additionally, the testimony in paragraph 19 states that “[t]hus John discloses an un-cured polysulphide sealant in his assembly process.” Again, in paragraph 20, for the reasons stated there, Dr. Harris testifies that “John discloses an un-cured polysulphide sealant in his assembly process.” Additionally, in Declaration, each of the paragraphs 21-25 provide evidentiary testimony that the John reference “discloses an un-cured polysulphide sealant in his assembly process.”

In view of the substantial weight of Declarant’s testimony as to what is and is not disclosed in a prior art reference and the fact that the Examiner has provided no rebuttal evidence (other than his own speculation), the evidence in the Rule 132 Declaration should be taken as admitted by the Board, especially with respect to the attributes of a “cured” polysulphide sealant.

As established, it is clear, as later admitted by the Examiner, that the cited prior art reference does not disclose a pre-cured sealant which is used in a subsequent assembly of structures as set out in Appellants’ claims and therefore any further rejection of the independent claims under 35 USC §102 or §103 is respectfully traversed.

4. The specification discloses that 99% cured is “fully cured”

Beginning on page 15, the Examiner cites a portion of Appellants’ Appeal Brief regarding paragraph 19 of Dr. Harris’ Declaration. However, in the quote from paragraph 19 of the Harris Declaration, the Examiner ignores the first full sentence, i.e., “[b]ased upon the disclosure of the alleged curing cycles in John, it is clear that the John

polysulphide sealant may never achieve more than 50 to 70% cure during the time periods specified.”

Thus, the Examiner has mischaracterized the significance of paragraph 19 in Dr. Harris’ Declaration because it clearly discusses what is taught in John, i.e., 50 to 70% cure, and what is required in Appellants’ claims, i.e., in “14 days, the sealant is approximately 99% cured and therefore this is the definition to the word ‘cure’ as used in the specification and the claims.”

As Dr. Harris concludes, “John discloses an un-cured polysulphide sealant in his assembly process.” The Examiner has provided no evidence disputing the testimony of Dr. Harris.

5. The Examiner does not dispute that John teaches that a polysulphide mixture cures to a non-spreadable state “in about 2 hours”

In the middle of page 15 of the Examiner’s Answer, the Examiner recites the second full paragraph on page 11 of Appellants’ Appeal Brief. The Examiner then makes the statement that “John does not require cutting must occur in less than 2 hours time nor does John require using the cured sealant before less than 2 hours of curing.”

Appellants used the cited portion of the John reference as evidence to indicate that, as stated in the Appeal Brief, there is “no disclosure in John that the polysulphide sealant is applied to a mating surface and then permitted to completely cure and then bringing the mating surfaces together as required by independent claims 1 and 22.” The Examiner

does not dispute this statement and instead makes other statements that are simply not relevant to the issues argued in the Appeal Brief.

The Examiner's statement that John teaches (at column 4, lines 49-53) that the "cure is completed" is correct. However, the reference to "cure" in John is to curing sufficient that the material can be spread into a sheet-like material and then be cut into suitable widths and wound onto rolls for storage with an "adherent sealer film" applied to "both surfaces" of the layer of partially cured film. This only indicates curing sufficient to permit handling of the sealant and does not suggest that it is cured as the term is used in the present specification, or understood by those of ordinary skill as per Dr. Harris testimony.

It is also noted that the creation of the John film, with adherent sealer film applied to both sides, clearly teaches away from the current application's claim of applying the polysulphide sealant to "at least one mating surface." In John, the material is not applied to any "mating surface," but instead is spread, partially cured and then has a polyethylene film applied to both sides. This does not evidence Appellants' claimed method step of applying the layer of polysulphide sealant to one mating surface and then allowing the sealant to cure.

The Examiner points to no evidence in the John reference which suggests that the material is fully cured, i.e., cured in the manner in Appellants' claims and discussed in Appellants' specification, as would be readily apparent to those of ordinary skill in the art in view of Dr. Harris' Declaration paragraphs 17-26.

6. The Examiner ignores the differences between the result of the present invention pre-assembly curing of sealant and the known post-assembly curing of sealant which would be clearly understood by those of ordinary skill in the art after reviewing the present specification

Beginning on page 16 of the Examiner's Answer, the Examiner quotes from the Appeal Brief which points out that Dr. Harris' Declaration identifies four "differences between the assembled product using pre-assembly curing of the sealant in accordance with the present invention as opposed to the assembled product using post-assembly curing as in John and the other prior art" referencing paragraphs 30 and 31 of the Harris Declaration. The Examiner argues that this aspect of the Declaration is not supported by any quantitative result.

Firstly, the Examiner is simply incorrect that some quantitative result needs to be supplied in conjunction with the expert testimony of Dr. Harris. Dr. Harris has been qualified as an expert in the field and, as such, his opinion testimony is evidence of record. To ignore this evidence of record is to ignore the evidence in this appeal.

Secondly, the Declaration does provide evidence in paragraph 29 which logically explains the differences in the final product, i.e., that the present invention will have (a) a thicker sealant layer because in John the uncured sealant is squeezed out from between the surfaces, (b) the cured layer extends more uniformly across the mating surfaces, (c) there is also sealant layer in the area of the fasteners, whereas in the post-assembly cured process of John the sealant layer will be squeezed out under the fasteners allowing metal-to-metal contact, and (d) as a result of the pre-assembly curing, the sealant layer, after assembly, will normally be in compression, whereas in John, due to shrinkage during

curing, the sealant layer will be under tension. The Examiner offers no evidence rebutting any of these four differences between the end products of the John patent and the claimed invention. It is clear that those of ordinary skill in the art will understand these four significant differences between the claimed invention and the disclosure of the John reference in view of Dr. Harris' testimony.

Because the Examiner provides no evidence to support his speculation, he fails to rebut the evidence of Dr. Harris which clearly establishes that the John reference cannot anticipate or render obvious the subject matter of Appellants' independent claims and any further rejection thereunder is respectfully traversed.

7. The Examiner fails to understand that John "teaches away" from the claimed invention

In the middle of page 16 of the Examiner's Answer, the Examiner indicates that to him at least, it is "unclear how this passage clearly teaches away from the current invention." The passage in question is the John reference at column 3, lines 64-67, which states "[a]n excessive cure, on the other hand, reduces the adhesive properties of the film to a degree which makes it difficult to apply in commercial sealing operations, e.g. in the assembling of aircraft." The context of the quoted portion relates to different cures of partially cured sealant in which John states in the previous sentence "[t]oo low a cure results in a soft plastic film which in a riveted metal-to-metal seam, e.g. in an aircraft cabin, does not adequately prohibit leakage of air at 5-15 p.s.i. differential." The entire paragraph deals with the partial curing which is desired for films of sealing materials and

suggests that while uncured material is not desirable, fully cured material is also not desirable. It is clear that “an excessive cure” is a reference to sealant in the John reference which has been more fully cured than is desired, i.e., as claimed in present claim 1, a “cured” sealant.

Appellants direct the Examiner’s and the Board’s attention to the previous discussion of what is meant by “cured” both in Appellants’ specification and claims and in the Declaration of Dr. Harris. Quite clearly, the cited portion of the John reference would, to one of ordinary skill in the art, teach away from the claimed invention. How or why the Examiner disputes Dr. Harris’ testimony is not set forth in the Examiner’s Answer. The Examiner does not rebut any of Dr. Harris’ Declaration evidence or the fact that John references post-assembly curing of polysulphide sealants which is the direct opposite of Appellants’ claimed pre-assembly curing.

The evidence that the cited prior art “teaches away” from the claimed invention clearly rebuts any *prima facie* case of obviousness.

8. The Examiner admits that the “admitted prior art does not specifically teach the polysulphide sealant must be cured post-assembly”

Actually the Examiner is incorrect, in that John teaches post-assembly curing if curing, as noted above, means “fully cured.” In fact, John specifically teaches that one of ordinary skill in the art should avoid “an excessive cure” because it reduces adhesive properties of the film. Appellants surprisingly discovered that, even fully cured

polysulphide sealant is used in sealing two mating surfaces, it has the advantages in so sealing such surfaces as are set out in paragraph 29 of Dr. Harris' Declaration.

Because John, as previously discussed and as clearly shown in the Declaration of Dr. Harris, does not disclose pre-assembly curing of a polysulphide sealant layer, the Examiner's conclusory statement to the contrary is simply unsupported.

SUMMARY

Most importantly in the Examiner's Answer, there is no attack on Dr. Harris' credentials and therefore Dr. Harris' status as an expert declarant is undisputed. Furthermore, the testimony of Dr. Harris in paragraphs 1-32 of his Declaration is not disputed by any evidence of record. The best the Examiner can do is provide his own supposition, but this is unsupported by any evidence of record. The John reference does teach polysulphide sealants, but he clearly teaches post-assembly curing as opposed to Appellants' claimed pre-assembly curing. The benefits of pre-assembly curing will be obvious in view of Appellants' specification and the above discussion. The benefits of post-assembly curing are set out in the John reference and John clearly teaches away from pre-assembly curing. The Examiner has simply failed to meet his burden of rebutting the expert testimony of Dr. Harris which clearly establishes that the Examiner has no support for his rejections of the independent claims on appeal. Accordingly, any further rejection of the independent claims or claims dependent thereon is respectfully traversed.

As a result of the above, there the Examiner's Answer provides no support for the rejections of Appellants' independent claims or claims dependent thereon under 35 USC

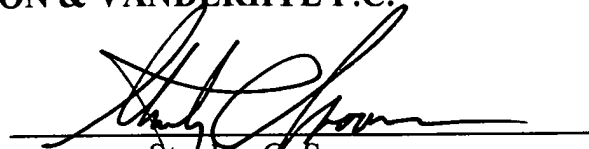
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§102 or §103. Thus, and in view of the above, the rejection of claims 1-23 under 35 USC
§102 and §103 is clearly in error and reversal thereof by this Honorable Board is
respectfully requested.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____


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